

Serial No.: 10/696,757
Inventor(s): John A. Sollars

U.S. PTO Customer No. 25280
Case No.: 2056B

REMARKS

Claims 10, 13-16, 18, 22-23, 37-41 are pending. Claims 1-9, 11-12, 17, 19-21, and 24-36 have been canceled. Claims 39-41 are newly added.

Claims 10-12, 14-15, 18-19, 22-23 and 37 are rejected under section 102(b) as anticipated by Japanese Utility Model 50-145875 to Katsutoshi et al. (hereinafter "Japanese 875"). Applicant traverses the rejection.

Claims 13, 16, 20 and 38 were rejected under section 103(a) as being unpatentably obvious in light of Japanese 875.

No Anticipation Under Section 102

There is no anticipation of the amended claims under section 102. The amended claims set forth an airbag cushion structure of interconnected woven in joints that resist gas permeation, the structure having between the first and second woven in joints no more than four yarns in the first layer and no more than four yarns in the second layer. The cited reference Japanese 875, as indicated in the Office Action, contains six yarns in each layer, as indicated in Figures 2 and 4 of the Japanese 875 patent.

A reference anticipates only if each and every claimed feature or element is shown and set forth exactly in the prior art reference. In this instance, the six yarns of each layer in the structure shown in the Japanese 875 patent is well beyond the claimed number of yarns in all of the pending claims of the present patent application.

No Obviousness Under Section 103(a)

It would not have been obvious for one of ordinary skill in the art to modify

Serial No.: 10/696,757
Inventor(s): John A. Sollars

U.S. PTO Customer No. 25280
Case No.: 2056B

the disclosed embodiment of the Japanese 875 utility model to make the invention as claimed. First, the Japanese 875 utility model does not even set forth all the elements of the invention, and as such, there is no *prima facie* case of obviousness. Furthermore, there is no motivation expressed in the Japanese 875 patent for changing the number of yarns as displayed in Figure 2 or Figure 4 of Japanese 875 to reduce the number of yarns in both of these layers. Absent such motivation for this kind of a structural modification being set forth and expressed in the prior art, there can be no legal obviousness for making such a modification. There is simply no cited teaching in the art for changing the structure of Japanese 875 to conform to the claimed invention, and the only source applicant has found for a motivation to make such a change is the hindsight reconstruction by the Office Action — that is — *intentionally modifying the prior art to conform it to meet the structure of the claimed invention, using the claimed invention as a guide in making such modification*. This type of hindsight reconstruction which uses as a guide the applicant's claimed invention is insufficient to establish obviousness under Section 103.

There is no *prima facie* case of obviousness, since the claimed reference does not teach all the elements of the claimed invention. In the invention, it has been found that an inflatable airbag cushion may be constructed that employs multiple fabric layers having relatively closely spaced interconnected woven in joints. This structure has been found by the inventors to desirably resist gas permeation across the joints. That is, in the practice of the invention, there is a first interconnected joint and a second interconnected joint. The first and second

Serial No.: 10/696,757
Inventor(s): John A. Sollars

U.S. PTO Customer No. 25280
Case No.: 2056B

interconnected joints run generally parallel to each other. The first and second interconnected joints each form a woven union of said first and second woven fabric layers along the length of the interconnected joints. The number of yarns positioned between said first and second interconnected joints in the practice of the invention is no more than about four yarns in each of the first and second layers. (See amended claims, above). It has been found that using no more than about four yarns in both the first and second layers resists gas permeation across the joint, which is highly desirable in airbag performance. Thus, this structural feature is especially advantageous in the gas retention characteristics of the airbag cushion, and there is no recognition of this structure or its performance advantage in the cited reference.

The Japanese 875 patent does not teach using no more than four yarns in a first layer. Further, the Japanese 875 patent does not teach using no more than four yarns in the second layer. Thus, this prior art reference does not provide a *prima facie* case of obviousness, since the feature of having a reduced number of yarns in this region is missing from the Japanese 875 reference. The Office Action clearly sets forth that the disclosed Figures of the Japanese 875 cited reference show the "number of yarns between joints is 6 in Figures 2 and 4" of Japanese 875.

The Office Action is not correct when it states that it would have been obvious for one of ordinary skill in the art to modify the Japanese 875 to use less yarns in these layers, as an "obvious matter of design choice". Further, the

Serial No.: 10/698,757
Inventor(s): John A. Sollars

U.S. PTO Customer No. 25280
Case No.: 2056B

Office Action is not correct when it states that the specification gives no stated reason or purpose for the number of yarns between joints.

The specification indicates clearly the advantages of the airbag structure of the invention. On page 4, lines 21-22 of the disclosure, the inventive cushion structure is stated to "retain gas pressure for a prolonged period of time after inflation". Likewise, Figure 5 and 6 are disclosed as particularly preferred embodiments of the invention (see page 7, lines 15-21), and Figures 5 and 6 show no more than four yarns in both the first and second woven fabric layers. Further, on page 15, lines 15-17, the specification indicates: "In the most preferred practice only about two to four yarns in each layer of fabric will be disposed in the region between the closely spaced joints (FIGS. 5 and 6)". Further, it is stated: "The use of very closely spaced joints is believed to be particularly useful in forming the flow barrier elements 14 which define the perimeter of the cushion." Page 15, lines 22-23. To achieve closely spaced joints, one preferably may use no more than four yarns in the first and second woven fabric layers. Thus, it is evident in the applicant's specification that the use of closely spaced joints, with a minimized number of yarns between the joints, assists in the retention of gas pressure and structure of flow barrier elements in the practice of the invention.

There is no suggestion in Japanese 875 to alter the structure of the airbag shown in that reference to change the number of yarns employed in that structure. The only suggestion found is invented in the language of the Office Action, and in response to review of applicant's invention and specification. This

Serial No.: 10/696,757
Inventor(s): John A. Sollars

U.S. PTO Customer No. 25280
Case No.: 2056B

sort of hindsight reconstruction of prior art to try and conform or change the structure of the prior art to approximate that of the disclosed invention is *not* an appropriate manner of approaching obviousness under Section 103.

In fact, some prior art would teach in favor of *increasing* the number of yarns between joints. That is, the use of a crossover yarn which begins in one layer and "crosses over" to a second layer is shown, for example in U.S. Patent No. 3,991,249 to Yamashita et al. Figure 1D of this Yamashita patent (which was cited in applicant's Information Disclosure Statement of May 10, 2004) shows a "crossover" yarn 4a that is used for forming the face fabric of the tubular weave portion 1. This yarn 4a is also used in the Yamashita disclosure for forming the back fabric of small weave portion 2a. Figure 1A illustrates a woven airbag material with a plurality of stitched portions 2 formed at a position between two adjacent tubular weave portions 1. The length of each small tubular weave portion 2a and 2b is a full 2 centimeters. See column 6, lines 5-8. This prior art patent suggests using a great number of yarns (i.e. several centimeters in woven width) between the points at which crossover occurs in an airbag fabric. Thus, this teaching of Yamashita counsels in favor of using substantially more yarns than is shown in Japanese 875 in such the intermediate zone between tubular weave portions. This Yamashita reference counsels in favor of using much more than a maximum of four yarns in the region between joints.

Thus, there is no obviousness of the amended claims, which all limit the number of yarns between joints to a maximum of 4 yarns for each of the layers of the two layer structure. It is evident that a person of skill in the art would be

Serial No.: 10/696,757
Inventor(s): John A. Sollars

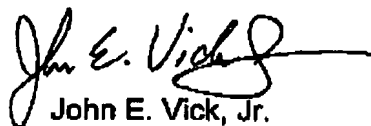
U.S. PTO Customer No. 25280
Case No.: 2056B

unlikely to be motivated to decrease the number of yarns between joints, and there is no cited teaching that would counsel in favor of such a decrease in yarn number. In fact, prior art (Yamashita, et. al) teaches in favor of *increasing* the number of yarns between joints in such woven airbag structures. There is no motivation expressed in the art, or cited in the Office Action, to modify Japanese 875 by *decreasing* the number of yarns between joints. Thus, there is no obviousness of the claimed invention, because a finding of obviousness requires a cited and express teaching set forth in the art that would counsel in favor of making the modification to *decrease* the number of yarns between joints.

Conclusion

For the reasons set forth above, it is respectfully submitted that all claims now stand in condition for allowance. In the event that there are additional fees associated with the submission of these papers (including extension of time fees), authorization is hereby provided to withdraw such fees from Deposit Account No. 04-0500.

Respectfully submitted,



John E. Vick, Jr.
Registration No. 33,808

Milliken & Company, M-495
920 Milliken Road
P.O. Box 1926
Spartanburg, SC 29304
Telephone: (864) 503-1383
Facsimile: (864) 503-1999